Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A coaxial RF or microwave component that guides or controls a desired radiation, comprising:

a. at least one RF or microwave radiation entry port in a conductive structure;

b. at least one RF or microwave radiation exit port in the conductive structure;

c. at least one passage substantially bounded on the sides by the conductive structure through which RF or microwave radiation passes when traveling from the at least one entry port to the at least one exit port;

d. a central conductor extending along a length of the at least one passage from the entry port to the exit port; and

wherein the conductive structure includes one or more apertures which extend from the passage to an outer region, wherein the apertures have cross-sectional dimensions that are no larger than the greater of 1/10 of a wavelength of the desired radiation or 200 microns, wherein the apertures are not intended to pass a significant amount of the desired radiation, and wherein the apertures are provided at locations where an electric field at the surface of the conductive structure when in use is less than about 20% of its maximum value within the passage.

Claim 2 (original): The component of claim 1 wherein at least some of the apertures are used to remove a sacrificial material.

Claim 3 (original): The component of claim 1 wherein at least some of the apertures are used to receive a dielectric that aids in retaining a desired relative position between the central conductor and the conductive structure.

Claim 4 (original): The component of claim 1 wherein the conductive structure and the central conductor are monolithic.

Claim 5 (previously presented): The component of claim 1 wherein at least a portion of the central conductor or the conductive structure comprises material formed from a plurality of successively deposited and planarized layers.

Claim 6 (original): The component of claim 1 wherein at least a portion of the central conductor or the conductive structure comprises material formed by a plurality of electrodeposition operations.

Claim 7 (previously presented): The component of claim 1 wherein a cross-sectional dimension of the passage perpendicular to the propagation direction of the radiation along the passage is less than about 1 mm.

Claim 8 (previously presented): The component of claim 7 wherein a cross-sectional dimension of the passage perpendicular to the propagation direction of the radiation along the passage is less than about 0.5 mm.

Claim 9 (original): The component of claim 8 wherein a cross-sectional dimension of the passage perpendicular to a propagation direction of the radiation along the passage is less than about 0.2 mm.

Claim 10 (original): The component of claim 1 wherein at least a portion of the passage has a generally rectangular shape.

Claim 11 (original): The component of claim 1 wherein at least a portion of the central conductor has a generally rectangular shape.

Claim 12 (original): The component of claim 1 wherein the passage extends along a three-dimensional path.

Claim 13 (original): The component of claim 12 wherein the three-dimensional path comprises a three-dimensional spiral.

Claim 14 (original): The component of claim 1 wherein the component comprises a hybrid coupler.

Claim 15 (original): The component of claim 1 wherein the component comprises a delay line.

Claim 16 (original): The component of claim 1 wherein the component comprises an antenna.

Claim 17 (original): The component of claim 16 wherein the antenna comprises an antenna array.

Claim 18 (original): The component of claim 16 wherein the antenna is fed by or feeds a Butler matrix.

Claim 19 (original): The component of claim 16 wherein the antenna array comprises a patch antenna array.

Claim 20 (previously presented): The component of claim 16 wherein the antenna array is fed by signals propagated through a Butler matrix having multiple inputs and wherein each input to the Butler matrix is controlled by a power amplifier.

Claim 21 (previously presented): The component of claim 1 wherein the at least one passage comprises a serpentine form.

Claim 22 (previously presented): The component of claim 21 wherein the serpentine form comprises a single shared conductive shielding structure located between at least two different portions of the conductive structure.

Claim 23 (previously presented): The component of claim 1 wherein the at least one passage comprises at least two passages and wherein the at least two passages are located adjacent one another wherein the two passages are separated by a single conductive shielding structure.

Claim 24 (previously presented): The component of claim 1 wherein the conductive structure is at least in part formed using one or more of the following operations:

a. selectively electrodepositing a first conductive material and electrodepositing a second conductive material, wherein one of the first or second conductive materials is a sacrificial material and the other is a structural material which forms at least a part of the conductive structure;

b. electrodepositing a first conductive material, selectively etching the first conductive material to create at least one void, and electrodepositing a second conductive material to fill the at least one void, wherein at least one of the first or second conductive materials forms at least a part of the conductive structure;

c. electrodepositing at least one conductive material, depositing at least one flowable dielectric material, and depositing a seed layer of conductive material in preparation for formation of a next layer of material, wherein the conductive material forms at least a part of the conductive structure; or

d. selectively electrodepositing a first conductive material, then electrodepositing a second conductive material, then selectively etching one of the first or second conductive materials, and then electrodepositing a third conductive material, wherein at least one of the first, second, or third conductive materials is a sacrificial material and at least one of the remaining two conductive materials is a structural material which forms at least part of the conductive structure.

Claim 25 (previously presented): The component of claim 1 wherein the conductive structure is at least in part formed using one or more of the following operations:

a. separating at least one sacrificial material from at least one structural material which forms at least a part of the conductive structure;

b. separating a first sacrificial material from (a) a second sacrificial material and (b) at least one structural material to create a void, then filling at least a portion of the void with a dielectric material, and thereafter separating the second sacrificial material from the structural material and from the dielectric material, wherein the structural material forms at least part of the conductive structure; or

c. filling a void in a structural material with a magnetic or conductive material embedded in a flowable dielectric material and thereafter solidifying the dielectric material, wherein the structural material forms at least part of the conductive structure.

Claim 26 (previously presented): The component claim 1, wherein the component comprises one or more of a low pass filter, a high pass filter, a band pass filter, a reflection base filter, an absorption based filter, a leaky wall filter, a delay line, an impedance matching structure for connecting other functional components, an antennae, a feedhorn, a directional coupler, or a combiner.

Claim 27 (previously presented): The component of claim 1, wherein the component comprises one or more of a microminiature coaxial component, a transmission line, a low pass filter, a high pass filter, a band pass filter, a reflection-based filter, an absorption-based filter, a leaky wall filter, a delay line, an impedance matching structure for connecting other functional components, a directional coupler, a power combiner, a power splitter, a hybrid combiner, a magic TEE, a frequency multiplexer, or a frequency demultiplexer, a pyramidal feedhorn antenna, and/or a scalar feedhorn antenna.

Claim 28 (previously presented): A method of manufacturing a microdevice, comprising:

a. forming a plurality of adhered layers of material, wherein the forming of each layer of material comprises,

i. deposition of at least a first material;

ii. deposition of at least a second material; and

iii. planarization of the first and second materials to a common level; and

b. removing of at least a portion of the first or second material after formation of the plurality of layers;

wherein a structure resulting from the formation and the removal provides at least one structure that can function as one or more of an RF or microwave control, guidance, transmission, or reception component for a desired radiation, and comprises:

a. at least one RF or microwave radiation entry port in a conductive structure;

b. at least one RF or microwave radiation exit port in the conductive structure;

c. at least one passage substantially bounded on the sides by the conductive structure through which RF or microwave radiation passes when traveling from the at least one entry port to the at least one exit port;

d. central conductor extending along a length of the at least one passage from the entry port to the exit port; and

wherein the conductive structure includes one or more apertures which extend from the passage to an outer region, wherein the apertures have cross-sectional dimensions that are no larger than the greater of 1/10 of a wavelength of the desired radiation or 200 microns and wherein the apertures are not intended to pass a significant amount of the desired radiation.

Claim 29 (canceled).

Claim 30 (canceled).

Claim 31 (previously presented): A method of manufacturing a circuit for supplying signals to a passive array of N antenna elements to produce a plurality of beams, comprising:

a. depositing a plurality of layers of material to form $(N/2)\log_2 N$ four port hybrid couplers from a plurality of adhered layers each comprising four microminiature coaxial

elements, each coaxial element extending between a respective pair of ports of the hybrid coupler such that a pair of coaxial elements is coupled to each port; and

b. connecting at least some of the hybrid couplers to other hybrid couplers via phase shifting components to form a Butler matrix.

Claim 32 (previously presented): The method of claim 31, wherein the deposition of each layer of material comprises:

a. selective deposition of at least a first material;

b. deposition of at least a second material;

c. planarization of the first and second materials to a common level,

wherein a plurality of layers are deposited, and

wherein at least a portion of the first or second material is removed after deposition of the plurality of layers.

Claim 33 (previously presented): A Butler matrix for supplying signals to a passive array of N antenna elements to produce a plurality of beams, comprising $(N/2)\log_2 N$ four port hybrid couplers wherein each of the four hybrid couples comprise four microminiature coaxial elements, a first of the four coaxial elements extending between two of four ports, and a second of the coaxial elements extending between the other two of the four ports, while the remaining two coaxial elements extend between the first and second coaxial elements, wherein at least a portion of the length of least one of the coaxial elements is arranged in a serpentine form.

Claim 34 (previously presented): The Butler matrix of claim 33, wherein the serpentine form comprises a single shared shield structure between at least portions of adjacent central conductor segments of one or more coaxial elements.

Claim 35 (previously presented): The method of claim 28 wherein the apertures are provided at locations where an electric field at the surface of the conductive structure when in use is less than about 20% of its maximum value within the passage.

Claim 36 (previously presented): The method of claim 28 wherein one of the first and second materials comprises a sacrificial metal and the other of the first and second materials comprises a structural metal and wherein the sacrificial metal is removed after formation of the plurality of layers.